

NOTICES OF PUBLIC INFORMATION

Notices of Public Information contain corrections that agencies wish to make to their notices of rulemaking; miscellaneous rulemaking information that does not fit into any other category of notice; and other types of information required by statute to be published in the *Register*. Because of the variety of material that is contained in a Notice of Public Information, the Office of the Secretary of State has not established a specific format for these notices.

NOTICE OF PUBLIC INFORMATION

DEPARTMENT OF ENVIRONMENTAL QUALITY

1. **A.R.S. Title and its heading:** 49, The Environment
A.R.S. Chapter and its heading: 2, Water Quality Control
A.R.S. Article and its heading: 2.1, Total Maximum Daily Loads
A.R.S. Sections: A.R.S. § 49-232, Lists of Impaired Waters; Data Requirements; Rules
2. **The public information relating to the listed statute:**
A.R.S. § 49-232(A) requires the Department to at least once every five years, prepare a list of impaired waters for the purpose of complying with section 303(d) of the Clean Water Act (33 U.S.C. 1313(d)). The Department shall provide public notice and allow for comment on a draft list of impaired waters prior to its submission to the United States Environmental Protection Agency (EPA). The Department shall prepare written responses to comments received on the draft list. The Department shall publish the list of impaired waters that it plans to submit initially to the regional administrator and a summary of the responses to comments on the draft list in the *Arizona Administrative Register* at least forty-five days before submission of the list to the regional administrator.
3. **The Clean Water Act and the 2002 303(d) List:**
The Clean Water Act was established to restore and maintain the chemical, physical, and biological integrity of the nation's waters to, wherever attainable, provide for the protection and propagation of fish, shellfish, and wildlife; for recreation in and on the nation's waters; and for the development and implementation of programs to control nonpoint sources of pollution. This is commonly referred to as the "fishable, swimmable" goal of the Clean Water Act.

Section 305(b) of the Clean Water Act requires states to prepare and submit to EPA a biennial report that describes the water quality of all surface waters in the state. Each state must monitor water quality and review available data and information from various sources to determine if water quality standards are being met. From this 305(b) Report and other sources of information, the 303(d) List is created. This list identifies those streams that do not meet one or more of its designated uses. These waters are known as "water quality limited segments" or "impaired waters." Identifying a surface water as impaired may be based on an evaluation of physical, chemical, or biological data demonstrating evidence of a numeric standard exceedance, a narrative standard exceedance, designated use impairment, or on a declining trend in water quality, such that the surface water would exceed a water quality standard before the next listing period (antidegradation provisions under 40 CFR 130.7(b)(3)).

Section 303(d) of the Clean Water Act requires each state to prepare several lists of surface water segments not meeting surface water quality standards, including those that are not expected to meet state surface water quality standards after implementation of technology-based controls. The draft list is revised based on public input and finalized for submission to EPA. Arizona, like most states, prepares one list containing all of the waters meeting the criteria in section 303(d). At a minimum, the following sources of data are considered:
 - Surface waters identified in the 305(b) Report, including the section 314 lakes assessment, as not meeting water quality standards;
 - Surface waters for which dilution calculations or predictive models indicate nonattainment of standards;
 - Surface waters for which problems have been reported by other agencies, institutions, and the public;
 - Surface waters identified as impaired or threatened in the state's nonpoint assessments submitted to EPA under section 319 of the Clean Water Act;
 - Fish consumption advisories and restrictions on water sports and recreational contact;
 - Reports of fish kills or abnormalities (cancers, lesions, tumors);
 - Water quality management plans;

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- The Safe Drinking Water Act section 1453 source water assessments; and
- Superfund and Resource Conservation and Recovery Act (RCRA) reports and the Toxic Release Inventory.

When the 303(d) List and supporting documentation are submitted to EPA for review and approval, the submission constitutes the bulk of the administrative record supporting EPA's approval of the list. The submission contains the 303(d) List, including the pollutants or suspected pollutants impairing water quality; the priorities and the surface waters targeted for TMDL development during the next listing cycle; a description of the process used to develop the 303(d) List; the basis for listing decisions, including reasons for not including a surface water or segment on the list; and a summary of the response to public comments. Where there are exceedances of standards, 40 CFR 130.7(b)(6)(iv) requires a state to demonstrate "good cause" for not listing a surface water and places the burden of proof on the state to justify excluding a surface water from the list. "Good cause" factors include more recent or accurate data, flaws in the original analysis, more sophisticated water quality modeling, or changes in the conditions that demonstrate that the surface water is no longer impaired.

40 CFR 130.7(c)(1) and A.R.S. § 49-233 require the state to prioritize the identified impaired waters for development of a total maximum daily load (TMDL) for each pollutant. A TMDL is a scientific determination of the maximum amount, or "load," of the specific pollutant that a river, lake, or other surface water can tolerate or assimilate without exceeding surface water quality standards. Once a TMDL is established, that "load" is then allocated between the various identified point and nonpoint sources of that pollutant in the watershed and is implemented through permitting actions, such as NPDES permits, or through non-regulatory or voluntary efforts for nonpoint source activities.

Arizona must submit the 303(d) List to the U.S. Environmental Protection Agency on or before October 1, 2002. As noted in item #2 above, state statutes require that the initial 303(d) List be published in the *Arizona Administrative Register* at least 45 days before the list is submitted to the Regional Administrator.

SURFACE WATERS ASSESSED AS IMPAIRED (At least one designated use assessed as "impaired") (The 2002 303(d) List submission to EPA.)		
Surface Water Name Segment Description	Waterbody ID	Pollutants of Concern
Bill Williams Watershed		
Alamo Lake	AZL15030204-0040	High pH, sulfide, and low dissolved oxygen
Boulder Creek headwaters-Wilder Creek	AZ15030202-006	Fluoride (fluorine)
Boulder Creek Wilder Creek-Copper Creek	AZ15030202-005A	Arsenic and zinc (from Wilder Creek - Copper Creek) Copper (from Wilder Creek to Butte Creek only)
Colorado - Grand Canyon Watershed		
Colorado River Parashant-Diamond Creek	AZ15010002-003	Turbidity
Virgin River Beaver Dam Wash-Big Bend Wash	AZ15010010-003	Turbidity and fecal coliform
Colorado - Lower Gila Watershed		
Painted Rocks Borrow Pit Lake	AZL15070201-1010	Low dissolved oxygen and high fecal coliform
Little Colorado River - San Juan Watershed		
Little Colorado River Porter Tank-McDonalds Wash	AZ15020008-017	Copper and silver
Middle Gila Watershed		

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French Gulch headwaters-Hassayampa River	AZ15070103-239	Copper manganese and zinc
Gila River Gillespie Dam-Centennial Wash	AZ15070101-008	Boron
Hassayampa River headwaters-Copper Creek	AZ15070103-007A	Zinc
Mineral Creek Devils Canyon-Gila River	AZ15050100-012B	Beryllium, copper, zinc, and low pH
Queen Creek headwaters-Superior Mine WWTP	AZ15050100-014A	Copper
Turkey Creek headwaters-Poland Creek	AZ15070102-036	Cadmium, copper, and zinc
Salt Watershed		
Christopher Creek headwaters-Tonto Creek	AZ15060105-353	Turbidity
Tonto Creek headwaters-Haigler Creek	AZ15060105-013	Turbidity
Tonto Creek Rye Creek-Gun Creek	AZ15060101-048	Turbidity
San Pedro - Willcox Playa - Rio Yaqui Watershed		
Mule Gulch headwaters-Bisbee WWTP discharge	AZ15080301-090A	Copper and zinc
Mule Gulch Bisbee WWTP -Whitewater Draw	AZ15080301-090B	Copper, low pH, and zinc
San Pedro River Dragoon Wash-Tres Alamos Wash	AZ15050202-002	Nitrate
Santa Cruz - Rio Magdalena - Rio Sonoyta Watershed		
Alum Gulch headwaters-ephemeral reach	AZ15050301-581A	Cadmium, copper, and zinc
Harshaw Creek headwaters-ephemeral reach	AZ15050301-025A	Zinc
Nogales and East Nogales Washes Mexico border-Potrero Creek	AZ15050301-011	Chlorine, turbidity, and fecal coliform
Potrero Creek Interstate 19-Santa Cruz River	AZ15050301-500B	Fecal coliform
Santa Cruz River Mexico border-Nogales International WWTP discharge	AZ15050301-010	Escherichia coli and fecal coliform
Santa Cruz River Nogales International WWTP dis- charge-Josephine Canyon	AZ15050301-009	Fecal coliform
Santa Cruz River Josephine Canyon-Tubac Bridge	AZ15050301-008A	Fecal coliform and turbidity

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Santa Cruz River Tubac Bridge-Sopori Wash	AZ15050301-008B	Fecal coliform
Three R Canyon headwaters-ephemeral segment	AZ15050301-558A	Cadmium, copper, and zinc
Upper Gila Watershed		
Gila River Bonita Creek-Yuma Wash	AZ15040005-022	Turbidity
San Francisco River Limestone Gulch-Gila River	AZ15040004-001	Turbidity
Verde River Watershed		
Beaver Creek Dry Beaver-Verde River	AZ15060202-002	Turbidity
Oak Creek West Fork Oak Creek-Dry Creek	AZ15060202-018B	Turbidity

4. Arizona's 2002 Proposed 303(d) List Response to Comments:

Arizona's draft *The Status of Water Quality in Arizona – 2002, Arizona's Integrated 305(b) and 303(d) Listing Report Volumes I and II* was given public review from June 7, 2002 through July 8, 2002. The comments received are divided into those addressing 303(d) listing concerns and those covering other assessment issues.

Phelps Dodge Corporation

Comment 1: ADEQ has done a commendable job in following relevant assessment and impaired waters listing guidance and requirements. ADEQ's proposed 303(d) List represents a move to overcome past deficiencies in the 303(d) listing process in Arizona.

Response 1: ADEQ appreciates the comment.

Comment 2: Ephemeral waters should not be included on the 303(d) List because of unanswered technical concerns such as when an ephemeral water should be sampled and what are critical flow conditions used for modeling or load analysis. Also, Arizona's current surface water quality standards may not be appropriate for ephemeral waters.

Response 2: Generally samples are collected on ephemeral waters only during special investigations, primarily due to an investigation of a complaint. The rationale for sampling (spatial and temporal representativeness, seasonality, critical conditions) are addressed in the sampling and analysis plan established for each site. If the samples are collected specifically to support a TMDL, public review and input is solicited during the development of the sampling plan. Water quality data from various scenarios including first flush, storm water runoff, and stagnant pools aid in determining loadings and the nature of the parameter of concern in that environment. The use of such data in actual analysis and modeling is dependent on the representativeness of such data. Arizona's surface water standards apply to all conditions unless specifically exempted in the standards (i.e., A.A.C. R18-11-117, R18-11-118 and R18-11-119). The water quality standards must protect people, domestic animals, and wildlife from potential pollutants including stagnant pools from storm water runoff which may be used as a source of drinking water.

Arizona has adopted ephemeral water quality standards through a public process and must use these adopted standards for assessment and listing purposes. ADEQ continues to try to tailor Arizona's surface water quality standards to fit ephemeral systems. For example, in the 2002 Triennial Review of water quality standards, ADEQ has proposed to repeal the chronic standards on ephemeral waters, recognizing that chronic exposure conditions do not exist due to the very short duration of flows in typical ephemeral systems. These changes have been approved by the Governor's Regulatory Review Council and are at EPA pending approval.

Comment 3: If an ephemeral water is listed, it should be identified as a low priority unless: 1) the presence of the pollutant in the listed water poses a substantial threat to the health and safety of humans, aquatic life, or wildlife, or 2) the pollutant is contributing to the impairment of a downstream perennial surface water or segment.

If Mule Gulch and its tributaries remain on the list, they should not be included as "high priority" TMDLs because they are ephemeral. Provide a discussion of how the listed pollutants would pose a substantial threat to the health and safety of humans, aquatic life, or wildlife to support listing Mule Gulch, Dubacher Canyon, or Brewery Gulch as high priority. Otherwise, these surface waters should be listed as low priority.

Response 3: ADEQ agrees and used the concept as defined in the Impaired Waters Rule that ephemeral or intermittent waters alone would generally warrant a “low priority” due to the difficulty in obtaining sufficient water quality data. However this prioritization factor has a second criterion which essentially overrides the flow regimes where there is evidence that the surface water poses a substantial threat to the health and safety of humans, aquatic life or wildlife or contributes to the impairment of a downstream perennial surface water. Additional language is being added to the TMDL prioritization table (Table 27, 2002 303(d) List Submission to EPA Priority Ranking) to document or clarify where there is evidence of substantial health threat and/or contribution to downstream impairment.

According to water quality standards used for this assessment (adopted in 1996), Mule Gulch is designated as a warm water stream not ephemeral. Further investigation during the TMDL has indicated that portions of Mule Gulch are, in fact, intermittent or ephemeral and those changes are proposed in the 2002 Triennial Review currently waiting approval by EPA. Until such time as those new standards are approved, Arizona must continue to utilize the current standards for Clean Water Act purposes.

The determination of health threat or contributor to downstream impairment is based largely on the magnitude and frequency of exceedances as well as the toxicity of the parameters of concern. The following information will be added to the priority ranking table for Mule Gulch and its tributaries that contribute loadings (concentrations and frequency of exceedances from Volume II, Table 22):

- Dissolved copper in Mule Gulch measured up to 12,000 µg/L (185 times the standard) and were exceeded in 12 out of 16 samples in the upper segment of Mule Gulch (75%), and 8 out of 20 samples in the lower segment of Mule Gulch (40%).
- Dissolved zinc was measured up to 3760 µg/L in Mule Gulch (almost 10 times the standard were exceeded in 7 out of 16 samples in the upper segment of Mule Gulch (44%), and 7 out of 20 samples in the lower segment of Mule Gulch (35%).
- In addition to the concern for wildlife or even domestic animals drinking from any pools during monsoon or winter rains, this area of southern Arizona is a documented corridor for Mexican migrant traffic. Although Mule Gulch is not protected as a drinking water source, there is a high probability that the water may be consumed by migrants crossing the desert. Based on the domestic water source standards of 1000 µg/L for dissolved copper, 5 µg/L for total cadmium, and 2100 µg/L for total zinc, these waters present a threat to public health if consumed at these sites.
- ADEQ has already expended substantial effort in the Mule Gulch TMDL. Currently the TMDL is on hold while a site specific standard or standards are developed which consider natural background in the area. This standards development work commenced in fiscal year 2002 and is anticipated to be completed in fiscal year 2003. After adoption of the site specific standards, the TMDL will be resumed, as needed. Given that the process is underway but will likely take a minimum of two to three more years to complete, ADEQ agrees that a medium priority is more appropriate for Mule Gulch and all of its contributing tributaries.

Comment 4: Exempted exceedances of standards should include the statutory language from A.R.S. § 49-232(D), that excludes waters if pollutant loadings from naturally occurring conditions alone are sufficient to cause a violation of the water quality standards. A clear difference exists between the statutory exemption and the exemption provided due to natural background in Surface Water Standards (R18-11-119). (See Volume I, pages 9 and 10), because a site-specific standard would need to be developed before a TMDL could be developed if natural conditions are above the standard.

During the current TMDL study for Mule Gulch, ADEQ has determined that naturally occurring conditions alone would be sufficient to cause violation of the default water quality standard for copper and zinc on Mule Gulch and its ephemeral tributaries. Therefore, ADEQ has decided to delay the TMDL development until meaningful water quality standards for Mule Gulch can be adopted. The state law mandates that such waters not be listed as impaired (A.R.S. § 49-232(D)). Further, an additional reach of Mule Gulch and two tributaries (Brewery Gulch and Dubacher Canyon) should not be added to the 303(d) List for the same reason.

Response 4: ADEQ agrees that where natural background alone exceeds water quality standards such a surface water would not be listed as impaired. However, when anthropogenic sources are contributing to an impairment, a TMDL investigation is generally needed to accurately determine what portion of the impairment is due to natural conditions alone versus man-induced activities. When so determined, the TMDL would be deferred until site-specific standards are established through a public process. Until such times that ADEQ determines the extent of “natural background” impairment, Mule Gulch will remain on the 303(d) List.

The Department agrees to remove Brewery Gulch and Dubacher Canyon from the list (also see comment 10). During the course of the TMDL investigation at Mule Gulch, sampling results indicate exceedances in these two tributaries, among others. Rather than listing these segments separately, they will be addressed as part of the Mule Gulch TMDL project.

Comment 5: Data justifies establishing the 303(d) listed section on Boulder Creek as the smaller segment from Wilder Creek to Butte Creek, rather than from Wilder Creek to Copper Creek.

Response 5: The Department agrees with the commentor that recent water quality sampling data and the water quality modeling completed for the Boulder Creek TMDL confirm that copper impairment is only associated with the upper portion of Boulder Creek near the upper tailings pile. The 303(d) List has been modified to clarify the extent of impairment of Boulder Creek due to copper is from Wilder Creek to Butte Creek, the next named tributary downstream of the tailings piles. The modeling does confirm impairment due to arsenic and zinc at critical flow conditions on the entire segment, from Wilder Creek to Copper Creek. The modeling shows and recent water quality sampling confirms recovery in the segment below Copper Creek for all parameters of concern. The 303(d) List shows that Boulder Creek from Wilder Creek to Copper Creek is impaired but further delineates the affected segments as follows: arsenic and zinc: Wilder Creek to Copper Creek; copper: Wilder Creek to Butte Creek.

Comment 6: Clarify that only a portion of Boulder Creek is impaired by metal and in organics in Volume II, page BW-5.

Response 6: A clarification will be made that only two segments of Boulder Creek are listed as impaired and that the entire creek is not being listed.

Comment 7: ADEQ should consider newer data in assessing current surface water quality in Pinal Creek due to the completion of the Lower Pinal Creek treatment plant in November 1999. The Pinal Creek Group regularly provides ADEQ with water quality monitoring data at three sites.

Response 7: On July 15, 2002, the Pinal Creek Group provided the Department with the newer data, quality assurance plans and sampling analysis plans. This will allow the use of the newer credible data collected since the water treatment system was installed on Pinal Creek in November, 1999. In conformance with the weight-of-evidence approach at A.A.C. R18-11-605(B)(c)(i), data collected after the treatment plant was established will replace earlier data because it is more representative of current water quality conditions. ADEQ has reviewed the newer data and because Pinal Creek is meeting standards, it will be removed from the 303(d) List.

Comment 8: Table 19, Volume II indicates that pH was exceeded only 12 of 18 times on a portion of Pinal Creek, and this would be insufficient samples to base an assessment.

Response 8: Thank you for pointing out the error. However, based on the receipt of the Quality Assurance Plan (see response #7), newer data was used that shows Pinal Creek is no longer impaired and is being removed from the 303(d) List.

Comment 9: During the recent surface water triennial review, Mule Gulch was divided into four segments and given new designated uses based on flow, bed, and bank features. What rationale was used in dividing Mule Gulch into only two sections, one above and one below the wastewater treatment plant discharge?

Response 9: As stated in the Volume I, Chapter III, page 1, this assessment is based on surface water quality standards and designated uses currently in effect (approved in 1996). The 2002 triennial review of the surface water quality standards and proposed changes have been approved at the state level and sent to EPA for its review and approval. However in accordance with a recent court case (*Alaska Clean Water Alliance v. Clark*, C96-1762R (W.D. Wash., July 8, 1997)), the new standards are not available for Clean Water Act purposes until approved by the EPA. Therefore, no portion of Mule Gulch could be assessed under ephemeral water standards. In the current 1996 standards, Mule Gulch is divided into two segments with the uses changing at the wastewater treatment plant.

Comment 10: As the water quality from tributaries will be included in the evaluation of Mule Gulch and incorporated in the watershed model, why place ephemeral tributary drainages on the planning list or 303(d) List (e.g., Hendricks Gulch, Winwood Canyon, Brewery Gulch, and Dubacher Canyon)? Developing a TMDL report for each wash separately would be cumbersome, arbitrary, and add logistic difficulty to an already complex and difficult sampling program.

Response 10: ADEQ agrees (see response #4) and will remove Brewery Gulch and Dubacher Canyon from the list. While clearly impaired, the characterization of these areas is incomplete. Rather than continuing to proliferate listings on a surface water under investigation, all tributaries contributing to the impairment of Mule Gulch will be addressed under the ongoing TMDL. Further investigation will determine whether loads will be assigned to these and other contributing tributaries and/or whether site specific standards will be applied.

Comment 11: Brewery Gulch and Dubacher Canyon should not be added to the list as their impairments appear to be due solely to natural background conditions as the sample locations are outside the areas impacted by mining.

Response 11: The characterization of Dubacher Canyon and Brewery Gulch are not complete, however, as noted in responses #4 and #10, both are being removed from the list and will be addressed in the ongoing TMDL investigation at Mule Gulch.

Comment 12: According to water quality data collected on Whitewater Draw provided to Phelps Dodge by ADEQ, manganese values were at 1,650 ug/L not 16,500 ug/L.

Response 12: Values will be checked on original data sheets and the final report will be corrected if an error was made.

ADEQ's recommendation is to remove Whitewater Draw from the 303(d) List and place on the Planning List. If an error was made, the lower value would support this decision.

Comment 13: In light of the U.S. Supreme Courts SWANCC decision it is unclear whether Mule Gulch and associated tributaries even qualify as jurisdictional waters of the United States as Mule Gulch is an isolated water or a disconnected tributary to an ephemeral stream (Whitewater Draw) that flows into Mexico.

Response 13: Mule Gulch is, however, a surface water of the "state" and specifically named in Arizona's surface water quality standards rules. As such it is subject to Arizona's surface water standards. Based on the existing "tributary rule" (R18-11-105), all tributaries to Mule Gulch also have designated uses, even ephemeral tributaries. ADEQ is required under the Clean Water Act to assess all of Arizona's surface waters based on available monitoring data.

ASARCO

Comment 1: ASARCO supports segmenting Mineral Creek as the water quality problems are documented only on the lower segment, and that the listed segment is given a low priority due to a consent decree that directly addresses compliance with water quality standards.

Response 1: Thank you for the comment.

Comment 2: ASARCO questions the high priority given to developing TMDLs on Alum Gulch, Harshaw Creek and Three R Canyon for the following reasons and recommends that they be listed as medium or low priority:

- ADEQ does not explain the basis for concluding there is a substantial threat to human, aquatic life, or wildlife, especially since discharges are episodic on these ephemeral streams and there is a lack of data. Provide specifics about the toxicity and magnitude of the exceedances.
- Factor 4 is cited which states that it is ephemeral and does not pose a substantial threat;
- The waters do not contain the federally listed Mexican spotted owl, nor has ADEQ explained how the owl would be jeopardized by periodic exceedances of standards in these ephemeral waters;
- Explain the basis for medium priority factor 6 -- Arizona's administrative needs.

Response 2: The determination of health threat or contributor to downstream impairment is based largely on the magnitude and frequency of exceedances as well as the toxicity of the parameters of concern. The following information will be added to the listing of Alum Gulch, Harshaw Creek and 3-R Canyon in Table 27, Volume 1 — 2002 303(d) List Priority Ranking. The high levels of dissolved cadmium, copper, and zinc in these streams (as indicated in Table 25 in Volume II) are a concern for several reasons:

The magnitude of the concentrations as indicated in Table 25 in Volume II:

- At Alum Gulch dissolved copper was up to 2000 µg/L (more than 30 times the standard), cadmium was up to 220 µg/L (almost twice the standard), and zinc was up to 56,000 µg/L (almost 150 times the standard). Dissolved copper exceeded standards in 9 samples out of 10 samples collected (90%), dissolved zinc in 10 out of 10 samples (100%), and dissolved cadmium in 8 out of 10 samples (80%);
- At Harshaw Creek dissolved zinc was up to 11,000 µg/L (almost 30 times the standard). Dissolved zinc exceeded standards in 4 samples out of 4 samples collected (100% of the samples);
- At Three R Canyon dissolved copper was up to 89,000 µg/L (1370 times the standard), cadmium was up to 143 µg/L, and zinc was up to 2790 µg/L (7 times the standard). Dissolved copper was exceeded in 10 samples out of 10 samples collected (100%), dissolved zinc in 9 out of 10 samples (90%), and dissolved cadmium in 8 out of 10 samples (80%).

These are acutely toxic standards which must be assumed to have potentially toxic impacts on wildlife even for short exposures especially at the extremely high concentrations measured. In addition to the concern for wildlife or even domestic animals drinking from any pools during monsoon or winter rains.

ADEQ has already expended considerable resources and has a commitment to finishing these Phase I TMDLs on these surface waters. However, since the three studies are nearing completion, the Department agrees that a medium priority factor is more appropriate. Additional monitoring is necessary in these areas but due to the ephemeral and/or intermittent nature of the systems, it will take a longer time to collect the necessary data for Phase II.

Pima County Department of Environmental Quality

Comment 1: It is not necessary to place Sabino Canyon Creek on the Planning List. Only one sampling event is not sufficient data to make this determination based on the Impaired Waters Rule R18-11-604(D). Need more information about weather, flow rate, equipment, and sampling procedures. ADEQ supports doing further monitoring on Sabino Canyon Creek, but ADEQ should not have to place the creek on the Planning List in order to justify further monitoring.

Response 1: One of the key changes in the new integrated assessment and listing report is to have a mechanism for tracking all surface waters and their status. All surface waters are essentially on one of the five parts of the Planning List, including those attaining all standards and designated uses (Part 1). The new rule allows ADEQ to place a surface water on the Parts 2 or 3 of the Planning List when some monitoring exists but there is insufficient data to assess whether the surface water is impaired or not attaining its designated uses and standards, including when a numeric surface water quality standard has been exceeded (see R18-11-604(D)(2)(c)(i)).

In the case of Sabino Canyon, the only sample collected in the past five years indicates insufficient dissolved oxygen. ADEQ will keep Sabino Canyon Creek on Part 3 of the Planning List because more information is needed to determine whether the low dissolved oxygen is actually an indication of a water quality problem or whether the result was an anomaly; was due to other factors such as ground water upwelling, which is typically low in dissolved oxygen; or some other natural condition. For the next few years, the Department's surface water monitoring efforts will be focused almost exclusively on obtaining water quality information for waters on the Planning List, and as ADEQ indicates, Sabino Canyon Creek is a valuable asset to the community that should be monitored.

Comment 2: Should dissolved oxygen standards established for perennial waters be applied to intermittent or ephemeral segments?

Response 2: There is no dissolved oxygen standard for ephemeral waters however, intermittent waters are required to meet all applicable standards when there is water present. The surface water quality standards do contain an exemption under A.A.C. R18-11-119, where it can be demonstrated that naturally occurring conditions are the sole reason standards are not being met. Future monitoring at Sabino Canyon Creek will focus on determining whether there is an issue with low dissolved oxygen on the stream and probable causes.

Water Utilities Department, City of Tempe

Comment 1: The data used to assess the Tempe Town Lake does not represent persistent, recurring, or seasonal conditions. The data was collected during the first 19 months after the city began to fill this new lake, and water quality measurements represent a period that the lake needs to equilibrate. The monitoring period also included different pilot projects to control aquatic weed control.

Response 1: New data submitted to ADEQ on July 18, 2002 by the City indicates that since Tempe has begun a water management program to control algal growth, the pH exceedances are no longer occurring. ADEQ currently has three months of data showing that the treatment is successful and the City has committed to providing ADEQ with a detailed lake management plan by September 1, 2002. Because technology-based actions are being successfully employed and the city has committed to implementation of the lake management program, Tempe Town Lake will be placed on the Planning List for further monitoring in accordance with R18-11-604(D)(2)(h).

Comment 2: Tempe Town Lake does not have designated uses. A lake is not a stream reach either, and cannot be listed independently of the Salt River stream. ADEQ would need data that indicates that the Salt River is impaired.

Response 2: The commentor is correct that Tempe Town Lake is not currently listed in Appendix B of the surface water quality standards. However, it is the mission of the Department to protect human health and the environment. Since its creation, Tempe Town Lake has hosted a variety of public events where people recreate in and around the water body and is being operated as a "put and take fishery" with fish stocked by the Arizona Game and Fish Department. For these reasons, the Department believes it must assess the lake to protect both the public and aquatic life. Tempe Town Lake is being assessed under the Salt River standards temporarily, (aquatic and wildlife, ephemeral waters and partial body contact), until new standards are approved by EPA. These uses are the same ones applicable to the Salt River channel in which the Lake has been constructed. All water discharged into this river channel must meet surface water standards assigned to the Salt River, including well water retained within a system of dams. ADEQ is not assessing the Salt River, it is assessing the lake; the lake simply gets its designated uses from the river segment until its own designated uses are established in standards. When the Tempe Town Lake standards are approved, they will be more restrictive than the standards being used for this assessment (A&Ww, FBC and FC instead of A&We and PBC).

Comment 3: If listed, Tempe Town Lake should be ranked as a low priority (under R18-11-606(B)(3)(c)) as actions are being taken and controls are in place that are likely to bring the surface water back into compliance. Tempe will submit a water quality management plan to ADEQ by September 1, 2002. This plan will describe the City's algae and pH control measures, periodic releases of water and refilling of the lake during the 10-year average flood recurrence interval, and storm water pollution control measures implemented by the city.

Response 3: As stated in response #1, based on recent monitoring data that substantiates that surface water quality standards are now being met and the City's commitment to develop and implement a detailed lake management program, the lake has been moved to the Planning List.

ASSESSMENT COMMENTS

Phelps Dodge Corporation

Comment 1: The discussion of Mule Gulch and Whitewater Draw TMDLs is very outdated in Volume II, page SP-27. Whitewater Draw is being delisted for all pollutants and therefore should not even be included in the discussion.

Response 1: This discussion will be updated for the final assessment. The draft became outdated as the publication of this document has been delayed almost a year because of the lengthy process in developing Impaired Waters Identification rules.

Pima Association of Governments.

Comment 1: On page SC-2 in Volume II, clarify that some segments of the Santa Cruz River flow due to discharge of treated wastewater.

Response 1: Thank you for the comment, further clarification will be made in the final report.

Comment 2: On page SC-32 in Volume II, edit the Cienega Creek Natural Preserve section to state that water quality has “improved” (rather than “decreased”).

Response 2: Error corrected.

APS, a subsidiary of Pinnacle West Capital Corporation

Comment 1: Cholla Lake does not have any surface water connection to the Little Colorado River, it is simply an impoundment of ground water used for recirculating cooling water; therefore it should not be included in this assessment.

Response 1: Cholla Lake is both a “water of the U.S.” and a “waters of the state” and must be assessed if sufficient water quality information is available. Data analysis was completed and will be included in the assessment report for the following reasons:

- Cholla Lake is specifically named as a “surface water” and given designated uses in Arizona’s surface water quality standards. Even site specific temperature standards are specifically provided in these standards (see A.A.C. R18-11-109(E));
- Arizona Game and Fish Department provided a limited amount of Cholla Lake water quality data, collected to determine whether the lake could be stocked with fish;
- Cholla Lake provides public fishing and recreation opportunities; and
- Discharges to Cholla Lake are regulated under a NPDES permit.

The commentor has provided evidence in the past documenting that Cholla Lake is not connected to the Little Colorado River and is, in fact, outside of the 100-year floodplain. Cholla Lake is within the Little Colorado-San Juan Watershed, a water quality management region in Arizona. The Department uses these regions to plan its monitoring and permitting efforts throughout the state.

Comment 2: The designated uses for Cholla Lake are: aquatic and wildlife, fish consumption, full-body contact, and agriculture livestock watering. Agriculture irrigation is not a designated use as indicated in the report.

Response 2: Thank you for the comment however, the designated uses appear to be correct in the report and do not include agricultural irrigation.

Guardians of the Rural Environment, Yarnell, Arizona

Comment 1: The entire report was nearly incomprehensible with conflicting statements, missing or illegible maps, unexplained references and a myriad of statutes, rules, and procedures covering both pro and con nearly every action or non-action of the assessment. Missing public participation — Appendix F. How do we know which watershed Yarnell is in? The maps included did not include enough towns. Volume I, Figure 26, page VI-4 includes a large unnamed watershed, is this the Bill Williams watershed? Monitoring site 40 is not listed in Volume I, Figure 27, page VII-3. Is this the Has-sayampa in Wickenburg. This report contributes little toward educating interested parties such as our organization of concerned residents. Actually, anecdotal information collected from long-time inhabitants has provided us with more lucid view of water quality.

Response 1: This was a draft report, so several maps were not included and some items may not have been completed. We appreciate your review and will revise maps and text as necessary. Water quality assessments and the listing process are complex and are subject, as noted, to a myriad of both federal and state rules, criteria, and laws.

ADEQ’s Watershed Management Program may be able to assist your group in understanding the purpose and format of the report. Please contact Kris Randall, manager of the Watershed Management Unit at (602) 771-4509. By working with

our Watershed Program staff, ADEQ may be able to provide you with localized information including larger and more detailed maps of your area of interest to answer some of your questions.

Comment 2: The cover letter says that comments received after July 8th would not be considered, yet the next sentence says that late comments *may* be addressed. Which is it?

Response 2: As noted in the document, this is a combined report which address two federal requirements under the Clean Water Act: the water quality assessment (required under CWA section 305(b) and the impaired waters list (required under section 303(d) of the Clean Water Act). Per federal guidance released late last year, states are now required to merge these two reports into one document largely for the public's benefit of review.

The 303(d) listing process, however, is subject to a number of requirements under federal law, and state statutes and rules including significant public review requirements. In order to have the final list prepared for submission to EPA on or before October 1, 2002 (federal requirement), ADEQ needed to receive all comments regarding the 303(d) List by July 8th in order to prepare this responsiveness summary and publish the 303(d) List and these comments in the *Arizona Administrative Register* for 45-days (state law). The publication is required under A.R.S. § 49-232 and must be completed prior to ADEQ sending the final 303(d) List to EPA. ADEQ is able to accept comments about the 305(b) assessment report after the July 8th deadline because it does not have to be published a second time.

Comment 3: We are concerned with the eastern two-third of the Bill Williams Watershed and the northwestern one-third of the Middle Gila Watershed. Apparently there is a lack of ground water testing in this area. Since many areas outside of active AMAs have not been sampled, how can you state that "most of Arizona's ground water meets aquifer water quality standards, and thus is suitable for drinking water use?"

Response 3: As noted on page II-12 of the draft report, there are over 50 groundwater basins in the state of Arizona. Chapter VI of the draft report describes ADEQ's efforts to monitor each of the basins and publish reports on basin water quality. Since 1995, ADEQ has completed nearly 15 basin reports and monitors groundwater in four to five basins per year. We are currently merging the groundwater basin selections to correspond more closely with the watershed protection effort. The map on page VI-1 of the draft report, denotes those basins studies that have been completed, are underway and are planned for completion or study for the near future.

ADEQ will revise final text to reflect that we are only referring to water quality that has been tested. It may appear that more ground water monitoring has occurred within the Active Management Areas (AMAs) in the past, because these areas have the largest populations, therefore there are more wells available for sampling. Depending on the type of well (i.e., public water supply) there may be more data coming from the AMAs rather than the rural areas. But as noted on the map of groundwater basin studies, we have not, in fact, targeted the AMAs for study. The Arizona Department of Water Resources has conducted numerous studies on the AMAs and may be a good place to obtain some basic data. In fiscal year 2003, ADEQ will be conducting a groundwater study in the Upper Agua Fria Basin which would correspond roughly to your "northwestern one-third of the Middle Gila Watershed." Our Watershed Management Program can provide you with that information as it becomes available later in the year.

Arizona State Parks

Comment 1: Does ADEQ (or EPA) have any idea what levels of various pollutants occur naturally for various parts of the state for developing TMDLs? The nutrient TMDL established for loadings for nitrogen and phosphorus. What loading was established for naturally occurring levels? No nutrient limits were set for septic systems along Oak Creek. Have existing septic systems been checked to be certain they are still operating within the limits assumed? When will the referenced studies of septic systems be conducted? Have investigations been conducted upstream of Slide Rock State Park to determine possible contributing causes and/or sources of the bacteria levels? Have naturally occurring turbidity levels been determined for the Verde River?

Response 1: These questions are outside the scope of the assessment report. Please work with Nancy LaMascus, ADEQ's TMDL Program manager. She can be reached at (602) 771-4468. Investigations to date were referenced in the discussion of the Oak Creek bacteria TMDL and the Verde Watershed in Volume II, starting on page VD-36 of this draft report. Further investigations may be needed and ADEQ is willing to work with interested parties to completed such investigations.

Comment 2: Should Munds Creek be included in Oak Creek's "unique waters" designation as an attempt to improve the water quality in Oak Creek?

Response 2: "Unique waters" have clear criteria that must be met and the designations can only apply to the water body specified in the surface water rule. However, discharges on these tributaries are not allowed to degrade water in the "unique water." The NPDES permit for the discharger in Munds Canyon incorporated this concept. Further information related to unique waters should be addressed to Steve Pawlowski, Surface Waters Monitoring and Standards Development Program Manager. He can be reached at (602) 771-4219.

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Red Rock Ranger District, U.S. Forest Service

Comment 1: Two reaches of Wet Beaver Creek could be combined so that it is assessed as one reach from its headwaters to Dry Beaver Creek as both segments have some perennial flow. This would seem to be more in keeping with West Clear Creek.

Response 1: Thank you for the comment. ADEQ will work with the Forest Service to determine the feasibility of combining the two streams for assessment purposes.

2002 303(d) List TMDL Priority Ranking and Schedule

(Submission to EPA for approval in October 2002)

Surface Water Identification	Pollutants	Date Listed	H 1*	H 2	H 3	H 4 *	H 5	H 6	H 7	H 8	M 1	M 2	M 3	M 4	M 5	M 6	L 1 *	L 2 *	L 3 *	L 4	L 5	L 6	L 7 *	L 8	L 9	RANKING AND DISCUSSION	TIME TABLE **
Bill Williams Watershed																											
Boulder Creek headwaters- Wilder Creek 26 miles AZ15030202-006	Fluoride	2002											X			<u>X</u>					X	X	X			Medium priority. Although there are three low priority factors (the stream reach has intermittent flow (L4), the stream is remote and the fluoride standard was based on lifetime exposures and ingestion during swimming (L5), and more data and information is needed to identify sources (L6); ADEQ will initiate this TMDL because there will be efficient use of resources as staff will be monitoring TMDL effectiveness in the lower segment of Boulder Creek in 2004.	Monitor 2003-2004. TMDL in 2005

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Boulder Creek Wilder Creek- Copper Creek 3 miles AZ15030202- 005A	Arsenic	1988						X				X	X	<u>X</u>				X	X					Medium priority. [NOTE: Copper impair- ment is only from Wilder Creek to below the upper tailings pile. Zinc and arsenic are pollutants of concern for the entire reach.] Boulder Creek has intermittent flow (L4) and arsenic poses a low human- health threat on this remote stream which has nominal recreation (L5), however, copper and zinc present a signifi- cant threat to wildlife (H1) due to the toxic nature of these pollutants and the magnitude of the exceedances as follows: * Dissolved copper has been measured as high as 14,400 µg/L (220 times higher than the aquatic and wildlife standard); * Dissolved zinc has been reported as high as 115,000 µg/L (300 times higher than the aquatic and wildlife standard). BLM is pursuing clean up of an abandoned mine site on this reach which is a major source of the pol- lutants and is supporting the development of this TMDL for all three parameters (H6). The Arizona State Land Department is interested in developing a remedia- tion plan for contamina- tion on property owned by that agency; ADEQ is working with the Land Department on financing such remedies. Arsenic, copper, and zinc TMDLs are in progress and should be ready to submit to EPA for approval fall 2002 (M6).	Com- plete TMDL in 2002
	Copper	1988	<u>X</u>					X				X	X	X				X							
	Zinc	1988	<u>X</u>					X				X	X	X				X							
Alamo Lake 1,414 acres AZL1503020 4-0040	Dissolved oxygen	2002			<u>X</u>		<u>X</u>	<u>X</u>																High priority. Low dissolved oxygen and high pH have the potential to lead to fish kills which will jeopar- dize a food source for the bald eagle (a threatened species in this area) (H4) and the significant sport fishery in this lake (H7). Corps of Engineers is considering changes in dam operation to improve downstream habitat, and timely completion of the TMDL could assist in making management decisions (H6). ADEQ will being preliminary investigation in 2003.	Initiate TMDL in 2003
pH (high)	1996			<u>X</u>		<u>X</u>	<u>X</u>		X																
	Sulfide	1996			X		X	X								<u>X</u>								Low priority. A change in the sulfide standard has been submit- ted to EPA for approval. If approved, it will apply to epilimnion layer (top) of lake only resulting in Alamo Lake meeting this standard (L2).	NA -- New standard will be met

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Colorado-Grand Canyon Watershed																											
Colorado River Parashant-Diamond Creek 28 miles AZ15010002-003	Turbidity	1998			X											X		X				X	X	X	X	Low priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Turbidity does not pose a significant threat to human or aquatic life in this naturally turbid stream (L5, L8), even though it is federally listed and protected as a wild and scenic river (H3). Recent studies and dam releases have occurred because the river is not carrying sufficient suspended solids (L5) and the TMDL investigation may indicate that a site-specific standard is needed due to naturally high levels of turbidity (L6). Tribal holdings in the drainage basin (L7) and long travel distance for collecting samples make completing this TMDL complex (M5).	Begin monitoring for new standard in 2004

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Painted Rocks Borrow Pit Lake 180 acres AZL1507020 1-1010	Dissolved oxygen	1992																	X			X	Low priority. A 1992 diagnostic feasibility study by ADEQ investigated the causes of low dissolved oxygen. That study indicated that low dissolved oxygen is due to design and maintenance of this shallow lake and suggested strategies to improve water quality. Drought conditions have reduced lake levels and may be related to some of the low dissolved oxygen readings (L8). The lake is no longer being stocked with fish and does not have recreational uses because of historic pesticide contamination and fish consumption advisories (L5).	2007 Update report and determine need for TMDL
	Fecal coliform	2002								X									X	X			Low priority. There is no public access, thus the public health risk due to bacterial contamination is significantly reduced (L5). ADEQ has submitted a change in standards to EPA for approval that would replace the fecal coliform standard with a stricter <i>Escherichia coli</i> standard (L2). There is insufficient <i>E. coli</i> data available to know if that standard will be met (L6). More than one designed use is impaired by not meeting this standard (M1).	Begin monitoring for new standard in 2007
Little Colorado-San Juan Watershed																								
Little Colorado River Porter Tank-McDonalds Wash 17 miles AZ15020008-017	Copper	1992	X					X						X	X					X		X	High priority. Copper and silver TMDLs are a high priority due to the toxic nature of these heavy metals and the frequency they were exceeded (9 out of 11 samples exceeded the copper standard, and 2 out of 9 samples exceeded the silver standard) (H1). Data was from a USGS study concluded that the metals may be naturally elevated (L8); however, sources and natural loading concentrations need to be further studied (L6). The Little Colorado River Multiple Objective Management watershed group is interested in this TMDL (H6). The TMDL investigation is on ADEQ's workplan for 2003 (M6) in 2003, but the nature of these pollutants make this study complex (M5).	Initiate TMDL in 2003
	Silver	1992	X					X						X	X					X		X		
Middle Gila Watershed																								

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Salt Watershed

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Christopher Creek headwaters-Tonto Creek 8 miles AZ15060105-353	Turbidity	2002																X			X	X					Low priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Turbidity monitoring is currently occurring in support of other TMDL efforts.	Begin to monitor for new sediment standard in 2007
Tonto Creek headwaters-Haigler Creek 17 miles AZ15060105-013	Turbidity	2002																X			X	X					Low priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Turbidity monitoring is currently occurring in support of other TMDL efforts.	Begin to monitor for new sediment standard in 2007
Tonto Creek Rye Creek-Gun Creek 5 miles AZ15060105-008	Turbidity	1990																X			X	X					Low priority. ADEQ has submitted a change in designated use to EPA for approval, changing the use from a cold water fishery to a warm water fishery. When approved the turbidity standard would be met (L2, L5). ADEQ has also submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5). (see discussion for Tonto and Christopher Creeks above)	NA – New standard will be met. Begin to monitor for new sediment standard in 2007
San Pedro-Willcox Playa-Rio Yaqui Watershed																												

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Mule Gulch WWTP Bisbee-Whitewater Draw 8 miles AZ15080301-090B	Copper	1990	X									X	X	X				X			X		Medium priority. TMDLs are underway to address loadings on both segments of Mule Gulch and tributaries contributing significant loading. These TMDLs are complex due to the wastewater discharges, slope, intermittent and ephemeral flows, lack of rain, and natural background levels of copper (M3, M5, L4, L8). Currently ADEQ is developing site specific standards that account for loadings from naturally occurring conditions (M6, L8). The mining operation in the affected segments is implementing and continuing the develop additional Best Management Practices to address contamination issues. Copper, zinc, and low pH present a significant threat to wildlife and human health (H1) due to the toxic nature of these pollutants and the magnitude and frequency of the exceedances: * Dissolved copper was as high as 12,000 µg/L (185 times the aquatic and wildlife standard) and exceeded standards in 20 of 36 samples (55%) in Mule Gulch; * Dissolved zinc was as high as 3760 µg/L (10 times the aquatic and wildlife standard) and exceeded standards in 14 of 36 samples (about 40%) in Mule Gulch; * This area is a documented corridor for Mexican migrant traffic. Every summer migrants die of thirst crossing Arizona's desert and may drink from reaches of Mule Gulch with flow. Consumption of this water would be hazardous as the copper levels were up to 78 times the surface water standard for domestic water source (1000 µg/L). Cadmium and zinc would also exceed these DWS standards (cadmium = 5 µg/L and zinc = 2100 µg/L).	Site-specific standard development 2003; reassess TMDL in 2004
	Low pH	1990	X							X	X	X	X				X			X				
	Zinc	1990	X									X	X	X				X			X			
Mule Gulch headwaters- WWTP Bisbee 3 miles AZ15080301-090A	Copper	2002	X									X	X	X				X			X		Site-specific standard development 2003; reassess TMDL in 2004	
	Zinc	2002	X									X	X	X				X			X			

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Nogales and East Nogales Wash Mexico border-Portrero Wash 6 miles AZ15050301-011	Chlorine	1996	X															X			X			Medium priority. Although fecal coliform and chlorine are a significant threat to human health and wildlife (H1), actions to correct the situation are dependent on ongoing international negotiations between the U.S. government, Arizona, Mexico, the cities of Nogales, AZ and Nogales, Sonora and the Mexican state of Sonora (L7). Wastewater infrastructure in Mexico is badly deteriorated and must be replaced. Chlorine is sometimes added directly to the stream on the U.S. side of the border due to raw sewage overflows from Mexico. * This area is a documented corridor for Mexican migrant traffic. Every summer migrants die of thirst crossing Arizona's desert and may drink from reaches of Santa Cruz with flow. The source loadings are known and the technical means to correct the problem have been determined. International efforts require extensive negotiations and have experienced lengthy delays (L7). Completing a TMDL in this intermittent wash (L4) would not further the process at this time. ADEQ has submitted a change in standards to EPA for approval that would replace the fecal coliform standard with a stricter <i>Escherichia coli</i> standard (L2). There is insufficient <i>E. coli</i> data available to know if that standard will be met.	Monitor 2006
	Fecal coliform	1998	X								X							X	X	X	X			Begin monitoring for new standard 2003	
	Turbidity	1994												X				X	X	X	X			Low priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2, L5). Samples need to be collected from this reach and tributaries that feed this intermittent reach (L4) to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration.	Begin monitoring for new standard in 2003

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Portrero Creek Interstate 10-Santa Cruz River 5 miles AZ15050301-500B	Fecal coliform	2002	X								X							X		X		X	<u>X</u>			Medium priority. This intermittent creek (L4) receives fecal contamination from Nogales Wash at levels that are a threat to human health (H1); however, factors concerning international negotiations and lengthy delays (L7) (discussed above) affect completion of a TMDL. * This area is a documented corridor for Mexican migrant traffic. Every summer migrants die of thirst crossing Arizona's desert and may drink from reaches of Santa Cruz with flow. ADEQ has submitted a change in standards to EPA for approval that would replace the fecal coliform standard with a stricter <i>Escherichia coli</i> standard (L2). There is insufficient <i>E. coli</i> data available to know if that standard will be met.	Begin monitoring for new standard in 2006
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Santa Cruz River Mexico border-Nogales Intl WWTP 17 miles AZ15050301-010	Escherichia coli	2002	X					X								X		X	X			High priority. Identifying sources of contamination is a high priority because of potentially serious human health concerns (H1) for the following reasons: * These bacteria are indicators of fecal contamination which may include pathogens (e.g. typhoid, giardia). Some pathogenic diseases require very short contact with the water. * <i>E. coli</i> was measured as high as 10,000 colony forming units (CFU) (17 times the standard of 580 CFU). * This area is a documented corridor for Mexican migrant traffic. Every summer migrants die of thirst crossing Arizona's desert and may drink from reaches of Santa Cruz with flow. The Friends of the Santa Cruz River, a volunteer monitoring group, are interested in maintaining high quality water in the Santa Cruz River (H6). Completing this TMDL will be complex (M5) because the probable sources are in Mexico (L7), intermittent flows (L4) the current drought will make sampling challenging, and the need for more data to identify source loads (L6).	Targeted monitoring in 2003; determine need for TMDL in 2004
	Fecal coliform	2002	X					X			X			X		X		X	X			Medium priority. ADEQ has submitted a change in standards to EPA for approval that would replace the fecal coliform standard with a stricter <i>Escherichia coli</i> standard (L2). (See E. coli listing above). * This area is a documented corridor for Mexican migrant traffic. Every summer migrants die of thirst crossing Arizona's desert and may drink from reaches of Santa Cruz with flow. A TMDL would be complex (M5) due to potential sources in Mexico (L7) and intermittent flows (L4).	Begin monitoring for new standard along with targeted monitoring in 2003

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Santa Cruz River Josephine Canyon- Tubac Bridge 5 miles AZ15050301-008A	Fecal coliform	2002	X				X	X		X			X			X			X	<u>X</u>		Medium priority. NOTE: See comments in reach number 15050301-009 above.	Begin monitoring for new standard in 2006
	Turbidity	2002				X	X	X					X			X			X	<u>X</u>		Medium priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this ephemeral and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. A federally listed endangered species, the Gila topminnow, has been sighted in this reach and may be further jeopardized by the causes of the turbidity (H4). The Friends of the Santa Cruz River, a volunteer monitoring group, are interested in efforts to improve water quality in the river (H6) as this segment of the river is used for recreational purposes (H7).	Begin monitoring for new standard in 2006
Santa Cruz River Tubac Bridge-Sopori Wash 9 miles AZ15050301-008B	Fecal coliform	2002	X			X	X		X				X			X			X	<u>X</u>		Medium priority. NOTE: See comments in reach number 15050301-009 above.	Begin monitoring for new standard in 2006

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Upper Gila (Safford-San Carlos-Duncan) Watershed

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Gila River Bonita Creek-Yuma Wash 6 miles AZ15040005-022	Turbidity	1996				X								X			X													Medium priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples needs to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. A federally listed threatened species, the Loach minnow, is in this reach and may be sensitive to turbidity exceedances or causes associated with turbidity (H4). This TMDL is complex because the upper drainage is in New Mexico (M5). A recently published fluvial geology study on the Gila River in New Mexico may support this TMDL analysis.	Begin monitoring for new standard in 2005
San Francisco River Limestone Gulch-Gila River 13 miles AZ15040004-001	Turbidity	1992												X			X													Low priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration (L2, M5).	Begin monitoring for new standard in 2005
Verde Watershed																															
Beaver Creek Dry Beaver Creek-Verde River 9 miles AZ15060202-002	Turbidity	1996				X		X						X			X													Medium priority. ADEQ has submitted a change in standards to EPA for approval that would replace the turbidity standard with a suspended sediment concentration standard (L2). Samples need to be collected from this reach and tributaries that feed this reach to identify sources (L6) and to relate the turbidity exceedances to the new suspended sediment concentration. Two federally listed threatened and/or endangered species have been sighted in this reach, the Spikedace and the South-west willow flycatcher. The Spikedace may be sensitive to excessive turbidity (H4).	Begin targeted monitoring in 2003; evaluate need for TMDL 2004

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- c. Actions have been taken and the controls are in place or scheduled for implementation that are likely to bring the surface water back into compliance.
- L4. The surface water is ephemeral or intermittent. ADEQ shall re-prioritize the surface water if the presence of the pollutant in the listed water poses a threat to the health and safety of humans, aquatic life, or wildlife using the water (H1) or the pollutant is contributing to the impairment of a downstream, perennial surface water.
- L5. The pollutant poses a low ecological and human health risk.
- L6. Insufficient data exists to determine the source of the pollutant load.
- L7. The uncertainty of timely coordination with national and international entities concerning international waters.
- L8. Naturally occurring conditions are a major contributor to the impairment.
- L9. No documentation or effective analytical tools exist to develop a TMDL for the surface water with reasonable accuracy.

4. The name and address of agency personnel with whom persons may communicate regarding the public information:

Name: Linda Taunt

Address: Arizona Department of Environmental Quality
1110 W. Washington, 5415A-1
Phoenix, AZ 85007

Telephone: (602) 771-4416
(800) 234-5677, ext. 4416 (other areas)

Fax: (602) 771-4528

E-mail: taunt.linda@ev.state.az.us

Copies of the 2002 303(d) List may be obtained from the Department by contacting the numbers above. The 2002 303(d) List may also be downloaded from the Department's web site at: <http://www.adeq.state.az.us/environ/water/assess/hsa.html#draft>.

5. The time during which the agency will accept written comments and time and place where oral comments may be made:

Written comments will be accepted until September 23, 2002, which is for 45 days commencing from the date of publication in the *Administrative Register*. There are no oral proceedings scheduled.

"Publication of the list in the *Arizona Administrative Register* is an appealable agency action pursuant to Title 41, Chapter 6, Article 10 that may be appealed by any party that submitted written comments on the draft list. If the Department receives a notice of appeal of a listing pursuant to A.R.S. § 41-1092, subsection (B) within forty-five days of the publication of the list in the *Arizona Administrative Register*, the Department shall not include the challenged listing in its initial submission to the regional administrator. The Department may subsequently submit the challenged listing to the regional administrator if the listing is upheld in the Director's final administrative decision pursuant to A.R.S. § 41-1092.08, or if the challenge to the listing is withdrawn prior to a final administrative decision." (A.R.S. § 49-232(A))